

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) A decoding apparatus for decoding a coded stream, comprising:

input means for inputting a speeded-up coded stream, comprising a plurality of coded streams;

a plurality of decoding means for decoding said speeded-up coded stream;

a plurality of decoding control means for controlling said plurality of decoding means such that said plurality of decoding means operate in parallel;

selection means for selecting a particular one of a plurality of picture data decoded and output by said plurality of decoding means; and

output control means for outputting, at an arbitrary playback speed, a picture corresponding to each of said plurality of coded streams of said speeded-up coded stream decoded by said plurality of decoding means,

wherein said plurality of decoding means output an end signal indicating completion of decoding to said selection means, said selection means includes storage means for storing a value corresponding to a processing state of each of said plurality of decoding means such that when values stored in said storage means all become equal to a first value, a value stored therein corresponding to decoding means outputting said end signal indicating completion of decoding is changed from said first value to a second value.

2. (Original) A decoding apparatus according to claim 1, wherein said speeded-up coded stream is an MPEG-2 video bit stream having a bit rate increased by a predetermined factor.

3. (Original) A decoding apparatus according to claim 2, wherein said output control means outputs a picture corresponding to said MPEG-2 video bit stream having the bit rate increased by the predetermined factor, at a playback speed increased by a factor within the range from zero to a predetermined value.

4. (Original) A decoding apparatus according to claim 1, wherein said decoding means outputs a signal indicating completion of decoding to said decoding control means, and said decoding control means controls said decoding means which has output said signal indicating the completion of decoding such that said decoding means decodes another coded stream.

5. (Previously Presented) A decoding apparatus according to claim 1, further comprising:

first buffer means for buffering said speeded-up coded stream;

reading means for reading from said speeded-up coded stream a start code indicating the start of a predetermined unit of information included in said speeded-up coded stream and further reading position information indicating a location in said buffer means at which said start code is stored;

second buffering means for buffering said start code and said position information read by said reading means; and

buffering control means for controlling buffering of said speeded-up coded stream by said first buffering means and buffering of said start code and said position information by said second buffering means.

6. (Original) A decoding apparatus according to claim 1, further comprising:
selection means for selecting a particular one of a plurality of picture data decoded and output by said plurality of decoding means; and
compensation means which receives the picture data selected by said selection means and performs motion compensation, as required, upon the received picture data.

7. (Previously Presented) A decoding apparatus for decoding a coded stream, comprising:

input means for inputting a speeded-up coded stream;
a plurality of decoding means for decoding said speeded-up coded stream comprising a plurality of coded streams;
a plurality of decoding control means for controlling said plurality of decoding means such that said plurality of decoding means operate in parallel;
output control means for outputting, at an arbitrary playback speed, a picture corresponding to each of said plurality of coded streams of said speeded-up coded stream decoded by said plurality of decoding means;

selection means for selecting a particular one of a plurality of picture data decoded and output by said plurality of decoding means; and

compensation means which receives the picture data selected by said selection means and performs motion compensation, as required, upon the received picture data,

wherein said plurality of decoding means output an end signal indicating completion of decoding to said selection means, said selection means includes storage means for storing a value corresponding to a processing state of each of said plurality of decoding means such that:

when values stored in said storage means all become equal to a first value, a value stored therein corresponding to decoding means outputting said end signal indicating completion of decoding is changed from said first value to a second value,

one of picture data decoded by said first decoding means corresponding to the second value stored in said storage means is selected, and

the values, stored in said storage means, corresponding to said decoding means which has decoded said selected picture data is changed to said first value.

8. (Original) A decoding apparatus according to claim 6, further comprising:
storage means for storing said picture data selected by said selection means or said picture data subjected to motion compensation performed by said motion compensation means;
and

storage control means for controlling the storage, in said storage means, of said picture data selected by said selection means or said picture data subjected to motion compensation performed by said motion compensation means.

9. (Original) A decoding apparatus according to claim 8, wherein said storage means stores a luminance component and a color difference component of said picture data separately from each other.

10. (Currently Amended) A decoding method for a decoding apparatus for decoding a coded stream, comprising:

an inputting step of inputting a speeded-up coded stream comprising a plurality of coded streams;

a plurality of decoding steps of decoding the speeded-up coded stream;

a decoding control step of controlling said plurality of decoding steps such that said plurality of decoding steps are performed in parallel;

a selecting step of selecting a particular one of a plurality of picture data decoded and output in said plurality of decoding steps; and

an output control step of outputting, at an arbitrary playback speed, a picture corresponding to each of said plurality of coded streams of said speeded-up coded stream decoded in said plurality of decoding steps,

wherein said plurality of decoding steps output an end signal indicating completion of decoding to said selecting step, said selecting step includes a storing step for storing a value corresponding to a processing state of each of said plurality of decoding steps such that when values stored in said storage means all become equal to a first value, a value stored therein corresponding to a decoding step outputting said end signal indicating completion of decoding is changed from said first value to a second value.

11. - 28. (Canceled)

29. (Currently Amended) The decoding apparatus of claim 1, wherein said plurality of decoding means comprise a plurality of slice decoders.

30. (Previously Presented) The decoding apparatus of claim 1, wherein said output control means is operable to output a plurality of pictures corresponding to the plurality of coded streams decoded by said plurality of decoding means.

31. (Previously Presented) The decoding apparatus of claim 1, wherein said coded stream is an MPEG-2 video bit stream.

32. (Previously Presented) A decoding apparatus according to claim 30, wherein said decoding means outputs a signal indicating completion of decoding to said decoding control means,

and said decoding control means controls said decoding means which has output said signal indicating the completion of decoding such that said decoding means decodes another coded stream.

33. (Previously Presented) A decoding apparatus according to claim 30, further comprising:

first buffer means for buffering said speeded-up coded stream;

reading means for reading from said speeded-up coded stream a start code indicating the start of a predetermined unit of information included in said speeded-up coded stream and further reading position information indicating a location in said buffer means at which said start code is stored;

second buffering means for buffering said start code and said position information read by said reading means; and

buffering control means for controlling buffering of said speeded-up coded stream by said first buffering means and buffering of said start code and said position information by said second buffering means.

34. (Previously Presented) A decoding apparatus according to claim 30, further comprising:

selection means for selecting a particular one of a plurality of picture data decoded and output by said plurality of decoding means; and

compensation means which receives the picture data selected by said selection means and performs motion compensation, as required, upon the received picture data.

35. (Previously Presented) A decoding apparatus for decoding a coded stream, comprising:

input means for inputting a speeded-up coded stream;

a plurality of decoding means for decoding said speeded-up coded stream comprising a plurality of coded streams;

a plurality of decoding control means for controlling said plurality of decoding means such that said plurality of decoding means operate in parallel;

output control means for outputting, at an arbitrary playback speed, a picture corresponding to each of said plurality of coded streams of said speeded-up coded stream decoded by said plurality of decoding means;

selection means for selecting a particular one of a plurality of picture data decoded and output by said plurality of decoding means; and

compensation means which receives the picture data selected by said selection means and performs motion compensation, as required, upon the received picture data,

wherein said output control means is operable to output a plurality of pictures corresponding to the plurality of coded streams decoded by said plurality of decoding means,

wherein said plurality of decoding means output an end signal indicating completion of decoding to said selection means,

wherein said selection means includes storage means for storing a value corresponding to a processing state of each of said plurality of decoding means such that:

when values stored in said storage means all become equal to a first value, a value stored therein corresponding to decoding means outputting said end signal indicating completion of decoding is changed from said first value to a second value,

one of picture data decoded by said first decoding means corresponding to the second value stored in said storage means is selected, and

the values, stored in said storage means, corresponding to said decoding means which has decoded said selected picture data is changed to said first value.

36. (Previously Presented) A decoding apparatus according to claim 34, further comprising:

storage means for storing said picture data selected by said selection means or said picture data subjected to motion compensation performed by said motion compensation means; and

storage control means for controlling the storage, in said storage means, of said picture data selected by said selection means or said picture data subjected to motion compensation performed by said motion compensation means.

37. (Previously Presented) A decoding apparatus according to claim 36, wherein said storage means stores a luminance component and a color difference component of said picture data separately from each other.

38. (Previously Presented) A decoding apparatus according to claim 30, further comprising:

acceptance means for accepting a multiplexed stream on which said plurality of coded streams are multiplexed; and

supply means for separating said multiplexed stream into the plurality of coded streams and supplying said plurality of coded streams to said input means.

39. (Previously Presented) The decoding apparatus of claim 1, wherein said plurality of decoding means comprise a plurality of slice decoders; and

said output control means is operable to output a plurality of pictures corresponding to said plurality of coded streams decoded by said plurality of slice decoders.

40. (Previously Presented) The decoding method of claim 10, wherein said decoding apparatus includes a plurality of slice decoders for decoding said speeded-up coded stream,

said deciding control step comprises a slice decoder control step of controlling said plurality of slice decoders such that said plurality of slice decoders operate in parallel, and

said output control step comprises outputting, at an arbitrary playback speed, a picture corresponding to said speeded-up coded stream decoded by said plurality of slice decoders.

41. (Previously Presented) The decoding method of claim 10, wherein said output control step comprises outputting a plurality of pictures corresponding to said plurality of coded streams decoded in said plurality of decoding steps.

42. (Previously Presented) The decoding method of claim 10, wherein said deciding apparatus includes a plurality of slice decoders for decoding said speeded-up stream,

said decoding control step comprises a slice decoder control step of controlling said plurality of slice decoders such that said plurality of slice decoders operate in parallel, and

said output control step comprises outputting a plurality of pictures corresponding to said plurality of coded streams decoded by said plurality of slice decoders.